Remarks

I. Introduction

Claims 4 to 7 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

II. Rejection of Claims 4 to 6 Under 35 U.S.C. 102(b)

The Final Office Action rejects claims 4 to 6 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 1,251,065 ("McCain"). Applicant respectfully submits that claims 4 to 6 are not anticipated by McCain and requests that the rejection be withdrawn.

Claim 4 relates to a drive bearing for printing machines for coupling a rotating tool to a drive shaft of a servomotor. Claim 4 recites that the drive bearing includes an element located at an interface between the rotating tool and the drive shaft on a tool axis. Claim 4 recites that the element has an axially projecting coupling cone that engages a counter recess of the drive shaft. Claim 4 has been amended herein without prejudice to recite that the cone is releasably held in the recess by frictional engagement of the surface of the cone with the surface of the recess. Support for this amendment can be found, for instance, at page 4, lines 9 to 10, which states that "[t]he coupling occurs by frictional engagement between the surfaces of cone 20 and cone shaped recess 24." Emphasis added. Claim 4 also recites that an angular position of the element is adjustable, and that the element is centered and configured to be secured to prevent rotation.

McCain relates to "shaft couplings permitting angular adjustment of one shaft or shaft section relative to another." Page 1, lines 8 to 11. With respect to claim 4, the Final Office Action states that "McCain discloses a drive bearing capable of being used in printing machines for coupling a rotating tool to a drive shaft of a servomotor comprising an element 18 located at an interface between the rotating tool 11 and the drive shaft 12 on a tool axis, the element having an axially projecting coupling cone 24 that engages a counter recess 21 of the drive shaft, the cone being releasably held in the recess by frictional engagement against nuts 25 wherein an angular position of the element is adjustable (col. 1, 1.9-11), and wherein the element is centered and configured to be secured to prevent rotation." Final

Office Action at page 2.

Applicant respectfully maintains that claim 4 is not anticipated by McCain for at least the reason that McCain does not disclose or even suggest all of the limitations recited in amended claim 4. For example, McCain does not disclose or even suggest an element having an axially projecting coupling cone that engages a counter recess of the drive shaft and that is releasably held in the recess by frictional engagement of the surface of the cone with the surface of the recess, as recited in amended claim 4. The Specification states at page 4, lines 2 to 5 that "[e]ach tool is provided with connecting cone 20 and is inserted into cone shaped recesses 24 of drive shafts 21 and precisely centered therein." The Specification further states at page 4, lines 9 to 11 that "[t]he coupling occurs by frictional engagement between the surfaces of cone 20 and cone shaped recess 24 ...".

In contrast, McCain describes that "[t]he member 18 is shown as enlarged at its forward end and formed with a socket 19 [whereby] the interior wall 19' of the socket 19 is conical in shape, enlarging as it extends inwardly for some distance." Column 2, lines 73 to 80. McCain also describes that "[in an] annular space left between the extension 24 of the member 18 and the conical wall 19' of the socket ... are arranged a series of nuts 25 [whereby] the surface 26 of each of these nuts fits and slides upon the outer cylindrical surface 27 of the extension 24, and the surface 27 conforms to the conical surface 19' of the interior wall of the socket 19." Column 2, lines 100 to 110, emphasis added. Thus, as an initial matter, McCain does not disclose or suggest a coupling cone because the surface 27 of the extension 24, which the Examiner identifies as being a coupling cone, is cylindrical. Thus, contrary to the Examiner's contention, the extension 24 is not a coupling cone.

Furthermore, McCain does not disclose or suggest that a counter recess which engages the coupling cone, as recited in amended claim 4. While the Examiner identifies the contracted portion 21 of the socket 19 as being a counter recess, the contracted portion 21 is cylindrical in shape, not conical. Thus, the contracted portion 21 of the socket 19 does not constitute a counter recess to a conically-shaped coupling cone.

Furthermore, McCain does not disclose or suggest a surface of the coupling cone being releasably held by frictional engagement with the surface of the counter recess, as recited in amended claim 4. To the extent that the extension 24 and the contracted portion 21 of the socket 19 could be considered to be a coupling

cone and a counter recess, respectively -- which Applicant maintains for the above-stated reasons they should not be -- these components are not in frictional engagement with each other because they are both cylindrical in shape and thus do not releasably hold each other. Furthermore, to the extent that the conical surface 19' of the interior wall of the socket 19 could be considered as being the counter recess -- which Applicant maintains for the above-stated reasons it should not be -- the conical surface 19' of the interior wall of the socket 19 never touches the surface 27 of the extension 24. Rather, the nuts 25 are always interposed between the conical surface 19' of the interior wall of the socket 19 and the surface 27 of the extension 24. Thus, the conical surface 19' of the interior wall of the socket 19 is never in frictional engagement with the surface 27 of the extension 24. Finally, to the extent that the conical surface 19' of the interior wall of the socket 19 could be considered as being the counter recess and to the extent that the outer surface of the nuts 25 could be considered as being the coupling cone -- which Applicant maintains for the above-stated reasons they should not be -- the nuts 25 are held relative to the conical surface 19' of the interior wall of the socket 19 because the radial thickness of a portion of the nuts 25 is larger than a portion of the interior diameter of the conical surface 19' of the interior wall of the socket 19, not by friction.

Furthermore, McCain does not describe an element located at an interface between the rotating tool and the drive shaft. Rather, McCain describes that "for the purposes of this invention therefore the shaft 12 and the member 18 are the two members that are to be coupled and may be considered as separate shaft members or sections, either of which may constitute the driving member." Page 1, lines 67 to 72. McCain further describes that a front cover of a crank case 11 is "secured in place." Page 1, line 47. The Final Office Action further states that, while "the crank case cover 11 of McCain is secured in place, ... the cover is preferably detachable (col. 1, l. 46-47) [and thus] the tool 11 is capable of rotating..." Final Office Action at page 3. Applicant respectfully maintains that the Examiner is impermissibly ascribing attributes to McCain that are not recited as being present.

To anticipate a claim, each and every element as set forth in the claim must be found in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in

the . . . claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). That is, the prior art must describe the elements arranged as required by the claims. In re Bond, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). As more fully set forth above, it is respectfully submitted that McCain does not disclose, or even suggest, an element having an axially projecting coupling cone that engages a counter recess of the drive shaft and that is releasably held in the recess by frictional engagement of the surface of the cone with the surface of the recess as recited in amended claim 4. It is therefore respectfully submitted that McCain does not anticipate amended claim 4.

In summary, it is respectfully submitted that McCain does not anticipate claim 4, and Applicant respectfully requests that the rejection of this claim be withdrawn. As for claims 5 and 6, which depend from claim 4 and therefore include all of the limitations of claim 4, it is respectfully submitted that McCain does not anticipate these dependent claims for at least the same reasons given above in support of the patentability of claim 4, and Applicant respectfully requests that the rejection of these claims be withdrawn also.

III. Rejection of Claim 7 Under 35 U.S.C. § 103(a)

Claim 7 was rejected under 35 U.S.C. § 103(a) as unpatentable over McCain in view of U.S. Patent No. 5,137,495 ("Luebke"). Applicants respectfully submit that the combination of McCain and Luebke does not render obvious claim 7 for the following reasons.

Luebke purports to relate to a shaft coupling allowing for an offset of axes, that comprises radially displaceable members and preferably serves to couple a journal of a printing cylinder to a drive shaft and comprises positively interengaging coupling parts, which are connected to the respective shafts to be coupled, and an assembly for forcing the coupling parts against each other. Luebke states that a radially displaceable outer coupling disk of the shaft coupling is connected to a member which is formed with a central bore, an axially displaceable bolt extends into and is centered in the bore and when the shaft coupling is disengaged the bolt will be urged by a spring into a central bore or aperture of the drive shaft or of a member which is connected to the drive shaft. Abstract.

Claim 7 relates to a drive bearing for printing machines for coupling a rotating tool to a drive shaft of a servomotor. Claim 7 recites that the drive bearing

includes an element located at an interface between the rotating tool and the drive shaft on a tool axis. Claim 7 recites that the element has an axially projecting coupling cone that engages a counter recess of the drive shaft. Claim 7 also recites that the drive bearing includes the cone tapering down in the direction towards the drive shaft and being releasably held in the recess by frictional engagement. Claim 7 also recites that the drive bearing includes an undercut on an inner bore of the coupling cone of the element. In addition, claim 7 recites that the drive bearing includes a tensioning rod having a spreading head, the rod configured to extend through the drive shaft of the servomotor so that the cone frictionally engages the counter recess in the drive shaft so as to provide a releasable holding of the coupling cone. Furthermore, claim 7 recites that an angular position of the element is adjustable, the element being centered and configured to be secured to prevent rotation.

The Final Office Action admits that "McCain fails to disclose the cone tapering down in the direction towards the drive shaft." Final Office Action at p. 4. However, the Final Office Action contends that Luebke describes "an element 4 for coupling drive shafts comprising a coupling cone 6 having a taper in the direction towards the drive shaft 16 for engaging with the tapering recess of the mating head 10." Final Office Action at p. 4. The Final Office Action concludes that "[i]t would have been obvious at the time the invention was made to a person of ordinary skill in the art to include a taper on the coupling cone of McCain as disclosed in Luebke to cooperate with the contracted portion 21 of the socket 19, thereby creating a more secure connection." Final Office Action at p. 4.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990).

Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Applicant respectfully maintains that claim 7 is not anticipated by the combination of McCain and Luebke for at least the reason that the combination of McCain and Luebke does not disclose or even suggest all of the limitations recited in claim 7. For example, the combination of McCain and Luebke does not disclose or even suggest an element having an axially projecting coupling cone that engages a counter recess of the drive shaft, the cone tapering down in the direction towards the drive shaft and being releasably held in the recess by frictional engagement, as recited in claim 7.

For instance, and as set forth above, it is respectfully submitted that McCain does not disclose or suggest an axially projecting coupling cone that engages a counter recess of the drive shaft, the cone being releasably held in the recess by frictional engagement. Luebke is not relied upon for describing or suggesting, and in fact do not describe or suggest, this limitation of McCain. Rather, Luebke describes "[a] coupling part 4 ... compris[ing] a coupling extension 6, which is trapezoidal in cross-section." Column 3, lines 5 to 8, emphasis added. Thus, as an initial matter, the coupling extension 6, which the Examiner identifies as being a coupling cone, is in fact not conical but trapezoidal. Luebke also describes that "[the coupling extension 6] is succeeded by a cylindrical guide pin 7 [having] a cylindrical extension 8, which is provided at its free end with an outwardly protruding flange 9." Luebke also describes that "the spring 22 always urges the rod 23 in the direction which is indicated by the arrow A so that the drawhead 24 which is connected to the left-hand end of the rod 23, by means of the gripping jaws 25 firmly pulls the coupling part 4 against the receiving head 10." Thus, it is the spring 22, and the gripping of the outwardly protruding flange 9 by the gripping jaws 25, that holds the coupling extension 6 relative to the tapering recess of the mating head 10, not friction. Since the combination of McCain and Luebke does not disclose, or even suggest, all of the limitations recited in claim 7, it is respectfully submitted that the combination of McCain and Luebke does not render obvious claim 7.

Furthermore, a person having ordinary skill in the art would not have been motivated to modify or combine McCain and Luebke to provide the claimed

subject matter of the claims to address the problems met thereby. Specifically, a person having ordinary skill in the art, desiring to modify the arrangement of McCain so as to provide a coupling cone and counter recess that are releasably held by frictional engagement, would not have been motivated to employ the teachings of Luebke. To the extent that either McCain or Luebke disclose a coupling cone and a counter recess -- which Applicant maintains they do not -- Luebke does not teach a frictional engagement of these components but instead teaches a biasing engagement, e.g., spring 22, and a gripping engagement, e.g., gripping jaws 25.

In summary, it is respectfully submitted that the combination of McCain and Luebke does not render obvious claim 7, and Applicant respectfully requests that the rejection of this claim be withdrawn. .

IV. Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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